



4119 White Bear Parkway, St. Paul, MN 55110 USA
Phone (651) 429-1100, Fax (651) 429-1122
Toll Free (800) 4-CORTEC, E-mail info@cortecvci.com
Internet http://www.cortecvci.com

Evaluating Compatibility of Cortec Products with Fluid used by Customer

Purpose: To determine the viability of using Cortec products over fluids used by customer.

Method: Standardized Compatibility Test
ASTM D-1748 Humidity cabinet (120°F, ~95% relative humidity)

Materials: FUCHS Metalube Montgomery PL7, provided by Customer
Quaker Ferrocode 61AUS
Quaker Ferrocode 61MAL HCL1
VpCI-337
VpCI-329D
BioCorr Rust Preventative
1010 cold rolled carbon steel panels

Procedure: The following procedure was used:

Standardized Compatibility Testing

- 1) Compatibility testing was performed according to its work instruction.
 - a. Note: Cortec products were added at 10% to Customer products.

ASTM D-1748 Humidity Testing

- 1) Prior to testing, 7 carbon steel panels were cleaned with methanol.
- 2) After cleaning, the panels were coated with the following:
 - a. VpCI-337
 - b. VpCI-329D
 - c. BioCorr
 - d. FUCHS/329D mixture
 - e. Ferrocode 61AUS/329D solution
 - f. Ferrocode 61MAL HCL1/329D solution
 - i. Note: VpCI-329D was added at 10% to each of these solutions.
- 3) After coating, panels were hung to drip dry overnight.
- 4) All panels were then hung in ASTM D-1748 humidity cabinet.
- 5) All panels were visually inspected periodically.
- 6) After 500 hours, all panels were removed from ASTM D-1748 humidity cabinet.
- 7) All panels were visually inspected.

Results: The following results were found:

Standardized Compatibility Testing

- 1) VpCI-329D was fully compatible with all 3 of the submitted products.
- 2) VpCI-337 and BioCorr were not compatible with any of the 3 products.
 - a. Both VpCI-337 and BioCorr caused emulsions, but these emulsions were not stable.



ASTM D-1748 Humidity Testing

Coating	Time to Failure (Hours)
Control	<24
VpCI-337	456
BioCorr	DNF*
VpCI-329D	DNF*
FUCHS Metalube	288
Ferrocote 61AUS	192
Ferrocote 61MAL	144
FUCHS/329D	288
FC 61AUS/329D	216
FC 61MAL/329D	144

DNF – Did not fail during 500 hours of humidity testing.

Conclusion: VpCI-337 and BioCorr were not compatible with any of the fluids sent by Customer. VpCI-329D was compatible, but provided negligible changes in corrosion protection. As stand alone products, all the Cortec products provided excellent corrosion protection.

Project #: 09-244-1825(bis)

From: Eric Uutala

Date: January 20, 2010

cc: Boris Miksic
Anna Vignetti
Margarita Kharshan
Cliff Cracauer
Bob Boyle
Michael Morin